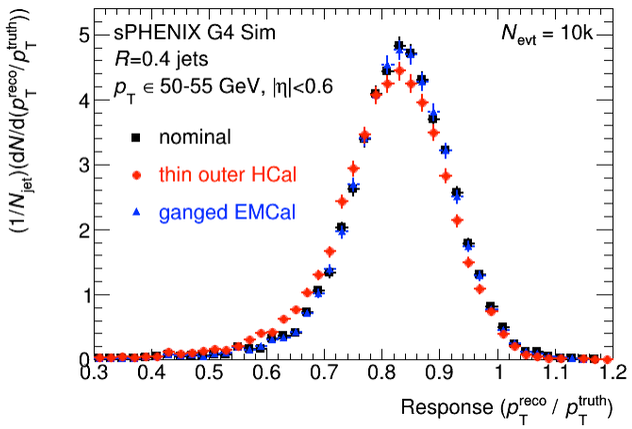
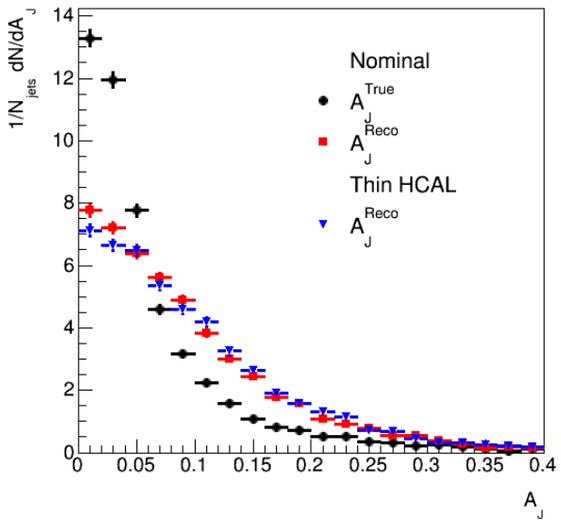
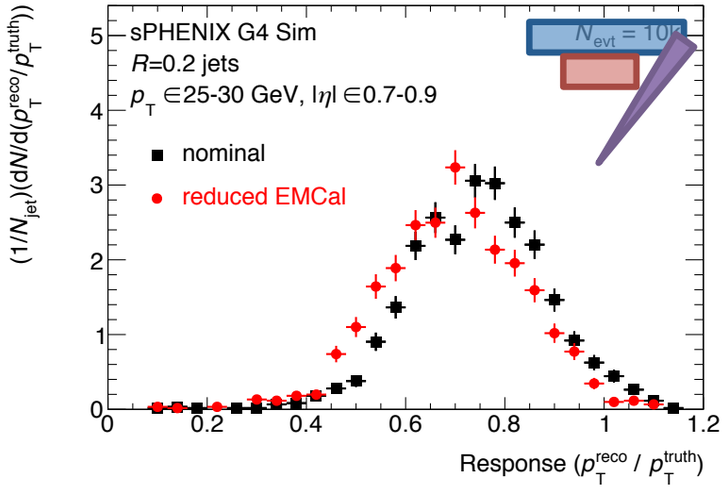
Discussion of response to ALD charge 1h30'

ICYMI

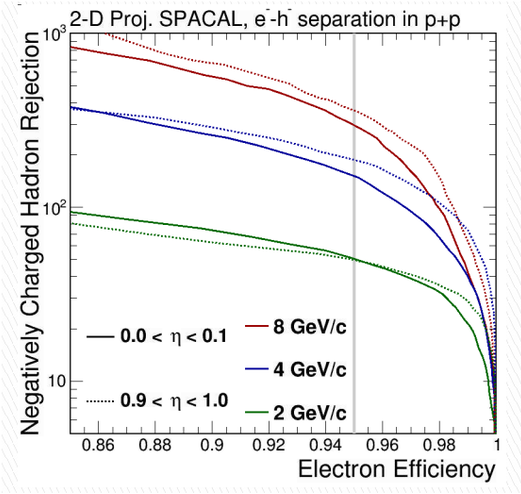
several jet structure observables show only modest effects for thinned HCal or reduced η coverage EMCal – somewhat surprising, but if verified, this is good news.

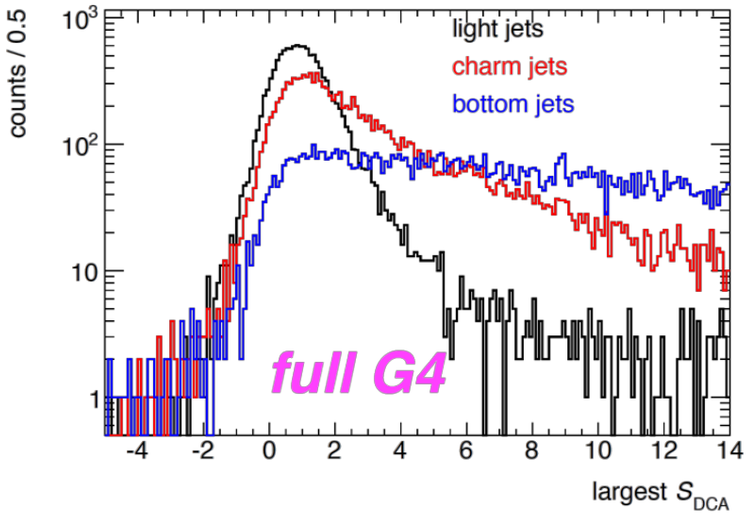






software issues have impeded reconstruction of full GEANT4 studies, but 2x2 EMCal ganging seems to have relatively modest effect on eID. soft lepton tagging of b-jets doesn't necessarily need DCA, but pays price of B.R. (may be OK for abundant low p_T jets)



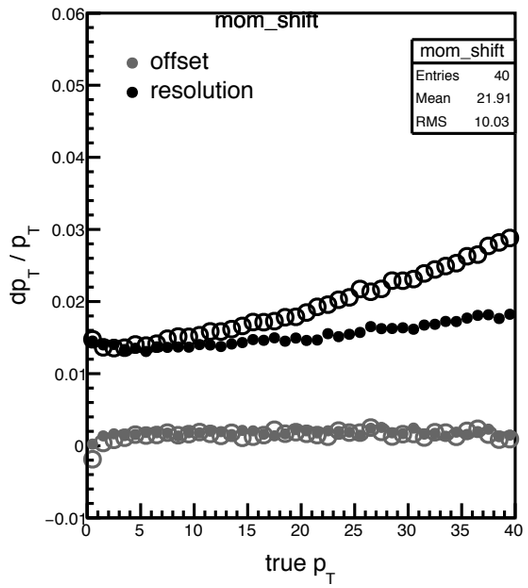


DCA dependent track counting method redone with full Geant4 simulation

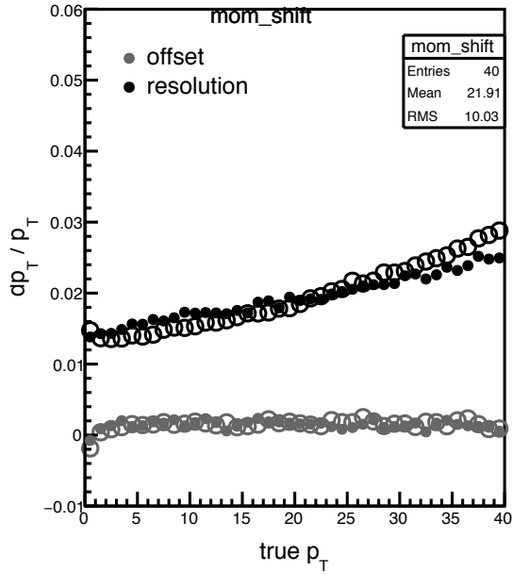
ICYMI

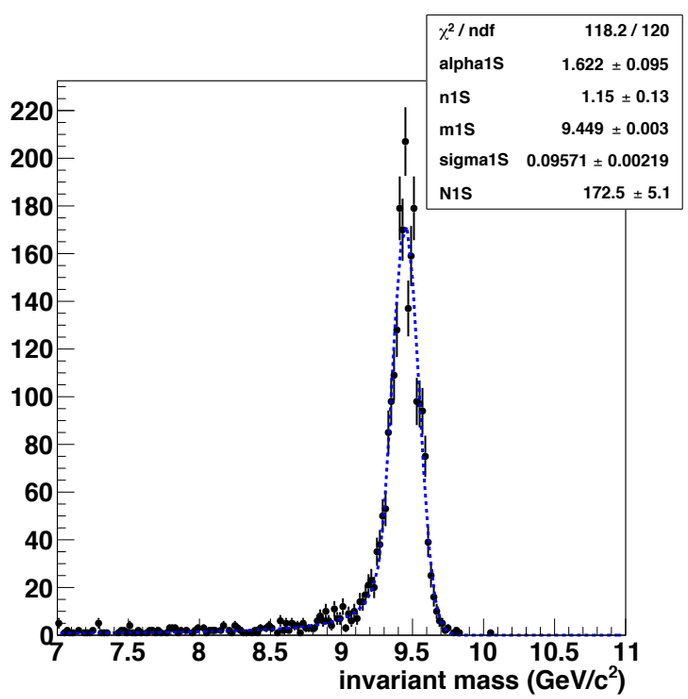
reconstruction is not using primary vertex in upsilon studies; at this point, the outer tracker is four layers of MAPS

1 MAPS+1 VTX

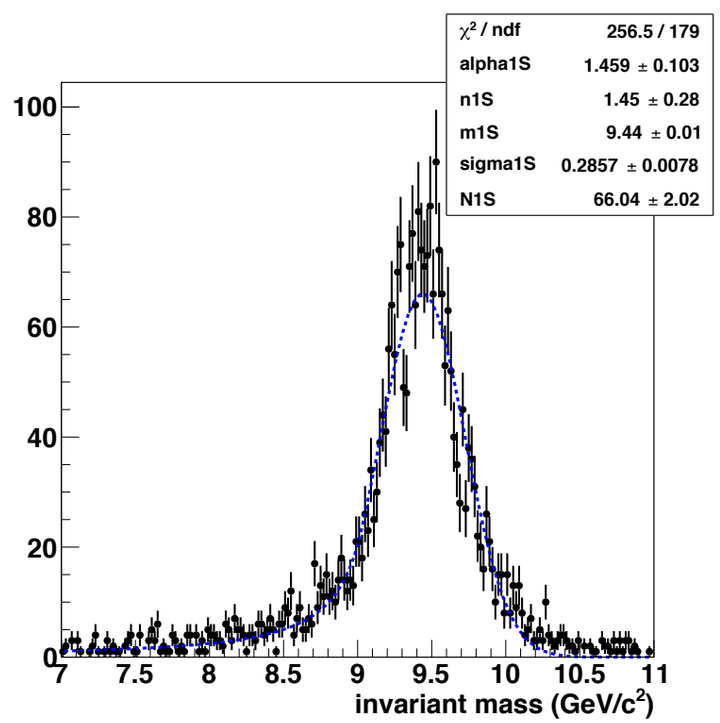


1 VTX





upsilon mass resolution in central HIJING



Observations/questions

- interaction of some options not studied yet – e.g. thinned oHCal + η-limited EMCal

- include MAPS in plan? – very good performance; if out, could be hard to bring back in; keeps collaboration connection to tech; implied anti-savings

- thinned outer HCal had surprisingly little effect on measurement looked at so far – needs a “disaster plot”, but thinner would be OK

- effect w/o inner HCal not studied yet – good target for buy-back? removal sees savings of all M&S, not just production costs

- EMCal – different strategies. no buy-back for segmentation change, but straightforward; ganging maintains coverage – is “NSF” buy-back of just electronics realistic? is limiting η coverage a better target for buy-back?

Updated re-scoping information

https://paper.dropbox.com/doc/sPHENIX-re-scoping-options-nn5FoOe7tlWHVjewVCae7

Some proposals – welcome others

- reduced segmentation EMCal, reduction of Trigger/DAQ, VTX pixels (one or two layers)
  - $1.6M + $1.2M = $2.8M
- thinned oHCal, reduced segmentation EMCal, aggressive reduction of Trigger/DAQ, two layers MAPS IB
  - $2M + $1.6M + $0.4M + $1.5M – $2.5M(?) = $3M
- remove iHCal + reduce η coverage of EMCal, aggressive reduction of Trigger/DAQ, one layer MAPS + one layer VTX IB
  - $1M + $1.6M + $0.4M + $1.5M – $1.5M(?) = $3M
- thinned oHCal, reduced segmentation EMCal, remove iHCal, aggressive reduction of Trigger/DAQ, two layers MAPS IB
  - $2M + $1.6M + $0.4M + $1M + $1.5M – $2.5M(?) = $4M